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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,601	04/21/2006	Wolfgang Klapp	P29517	2100
7055 7590 06/16/2009 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER FISCHER, JUSTIN R				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
06/16/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/576,601

Applicant(s)

KLAPP ET AL.

Examiner

Justin R. Fischer

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-8,11,13,15,18,21-26 and 101 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,10,11,13,15,18 and 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3, 7, 8, 10, 11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howland (US 2002/0074068, of record) and further in view of Tyobo (JP 60-28538, of record) and Loose (DE 2905136, of record).

Howland is directed to a bicycle tire construction comprising an anti-puncture device, wherein said device can include a single layer or multiple layers of fabric (Paragraph 6). Howland further teaches that the anti-puncture device can be formed of a wide variety of materials, including VECTRAN™, which is analogous to the claimed polyester/polyarylate filaments (Paragraph 27). The reference, however, fails to expressly describe the specific makeup of the reinforcing elements. In any event, the claimed fineness, thread count, and thread number (number of filaments per thread) are consistent with commonly used reinforcing elements in the tire industry, as shown for example by Tyobo (Abstract) and Loose (Abstract). It is emphasized that the claims define broad ranges for each of the parameters and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed combination of characteristics. Lastly, it is emphasized that while VECTRAN™ is described as a non-preferred embodiment, a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments (see MPEP 2123).

Regarding claim 2, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of filaments, including those having diameters less than 40 microns. The particular filament, and thus thread/yarn construction, is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed diameters.

With respect to claims 3 and 10, VECTRAN™ satisfies the claimed chemical formulas.

Regarding claims 7 and 8, the anti-puncture device of Howland is formed of woven fabric layers (warp and weft threads). In this instance, threads formed of VECTRAN™ are seen to have some degree of stretchability in the circumferential direction of the tire (claims do not require a separate thread material, such as polyamide or polyester).

As to claims 11, 13, and 15, as noted above, Loose recognizes the known use of a thread count between 250 and 450 cords per 10 cm, which incorporates fifty percent of the claimed range.

3. Claims 1-3, 7, 10, 11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazusa (US 4,649,979, of record) and further in view of Howland, Tyobo, and Loose.

Kazusa is directed to a bicycle tire construction comprising a breaker between carcass layers, wherein said breaker can include at least one ply (Column 1, Lines 60-

70). The reference suggests the use of a wide variety of cord materials, including aromatic polyamides (KEVLAR™). While the reference fails to expressly suggest the use of VECTRAN™, such a material is a well recognized "high performance" fiber that is commonly used as an equivalent alternative to KEVLAR™, as shown for example by Howland (Paragraph 27). It is emphasized that Howland and Kazusa are both directed to tire constructions including an anti-puncture or cut resistant arrangement. Thus, one of ordinary skill in the art at the time of the invention would have found it obvious to use the claimed fiber materials in the breaker of Kazusa.

As to the characteristics of the reinforcing elements, the claimed fineness, thread count, and thread number (number of filaments per thread) are consistent with commonly used reinforcing elements in the tire industry, as shown for example by Tyobo (Abstract) and Loose (Abstract). It is emphasized that the claims define broad ranges for each of the parameters and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed combination of characteristics.

Regarding claim 2, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of filaments, including those having diameters less than 40 microns. The particular filament, and thus thread/yarn construction, is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed diameters.

With respect to claims 3 and 10, VECTRAN™ satisfies the claimed chemical formulas.

As to claims 7, VECTRAN™ is seen to be stretchable (at least to some degree) in the circumferential direction of the tire.

As to claims 11, 13, 15, as noted above, Loose recognizes the known use of a thread count between 250 and 450 cords per 10 cm, which incorporates fifty percent of the claimed range.

4. Claims 6, 18, and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazusa, Howland, Tyobo, and Loose as applied in claims 1 and 2 above and further in view of Miyamoto (JP 64-60402, of record).

As detailed above, Kazusa, in view of Howland, Tyobo, and Loose, is directed to an anti-puncture breaker construction comprised of at least one ply of polyester/polyarylate filaments (VECTRAN™). In this instance, though, Kazusa is silent as to the specific makeup of the at least one ply. Miyamoto, on the other hand, is directed to an extremely similar anti-puncture breaker construction comprised of at least one ply, wherein said at least one ply is formed of threads/yarns running parallel to one another and inclined between 20 and 50 degrees with respect to the tire circumferential direction. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to form the plies of Kazusa in accordance to the claimed invention (parallel threads). It is emphasized that Kazusa is silent as to the construction of the breaker plies- Miyamoto evidences the known construction of such breaker plies.

With respect to claims 22-26, each of the limitations have been addressed in the previous paragraphs.

Response to Arguments

5. Applicant's arguments filed April 22, 2009 have been fully considered but they are not persuasive.

Applicant argues that while Tyobo does disclose that the multifilament consists of at least 10, preferably 19-50 monofilaments and has a total size of 50-300, preferably 100-250, denier, there is indication as to why one having ordinary skill in the art would look to the abstract of Tyobo for such disclosure or why one having ordinary skill in the art would modify Howland or Kazusa with any such disclosure of Tyobo. Applicant additionally contends that Loose is directed to a fabric providing protection for retread and it is not seen why one having ordinary skill in the art would modify Howland or Kazusa with the disclosure of Loose.

As detailed above, Howland expressly discloses a puncture resistant assembly comprising the claimed multifilaments (VECTRAN ®). Although the reference fails to expressly disclose the characteristics of said multifilaments, said multifilaments are formed with a certain number of filaments and have a certain fineness and thread count. One of ordinary skill in the art at the time of the invention would have looked to other fabric assemblies used in the tire industry and formed of multifilaments to determine the relevant characteristics or properties. In this instance, Tyobo and Loose teach tire fabric assemblies having a fineness, thread count, and thread number in accordance to the broad ranges of the claimed invention and applicant has not provided a conclusive

showing of unexpected results to establish a criticality for the claimed characteristics. It is emphasized that one making the tire of Howland would have to select a fineness, thread count, and thread number since the reference is silent with respect to these characteristics and the claimed values are consistent with those used in similar tire fabric assemblies, as shown for example by Tyobo and Loose.

Applicant further contends that the rejections do not establish that one having ordinary skill in the art would include a diameter of less than 40 microns as recited in claim 2. As detailed above, however, one of ordinary skill in the art at the time of the invention would have found it obvious to use a wide variety of filaments, including those having diameters less than 40 microns. The particular filament, and thus thread/yarn construction, is a function of the intended use of the tire and the specific construction of the anti-puncture device (e.g. number of layers). Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed diameters.

Applicant additionally argues that Howland discloses that strips made of high tenacity fibers, such as VECTRAN®, tend to be expensive and can cause an undesirable level of abrasion, which can damage tire cores and/or inner tubes of the tire in which they are installed. The disadvantage of high abrasion, however, is directed to an embodiment in which such assemblies are directly formed on an inner tube or tire core. Howland, however, is more broadly directed to a plurality of embodiments, including those in which such assemblies are formed within the tire casing (Paragraph 21). In such instances, the assemblies are not in direct contact with the inner tube

and/or tire core and thus, the disadvantage of high abrasion is not relevant. In describing the inventive constructions, Howland states the following: for cost considerations, preferred embodiments of the invention utilize fibers and yarns that are not formed of pure "high performance" fibers, such as KEVALR® and VECTRAN® liquid crystal polyesters.... (Paragraph 27). It is clearly evident that the disclosed "high performance" fibers represent non-preferred embodiments and it is well taken that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments (see MPEP 2123).

As to Kazusa, applicant argues that the reference is prior to the development of VECTRAN® and any modification with Howland would involve the preferred embodiment of Howland. First, Kazusa expressly describes a puncture resistance assembly formed of high performance fibers, such as KEVLAR®. Given the general disclosure of Kazusa, one of ordinary skill in the art at the time of the invention would have found it obvious to use any newly developed "high performance" fiber. Second, it is particularly noted that Howland describes the alternative use of KEVLAR® and VECTRAN® in a tire fabric assembly, further suggesting it would have been obvious to form the tire of Kazusa with the claimed multifilaments.

As to Miyamoto, applicant contends that the rejection does not address applicant's claimed subject matter of wherein the multifilament threads are arranged at an angle of 40 to 50 degrees to the tire circumferential direction and crosswise to the multifilament threads of a fabric layer beneath. The examiner respectfully disagrees- these limitations have been addressed in Paragraph 5 of the previous communication.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on **(571) 272-1226**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1791
June 10, 2009